TEATRO 80 - M80

user and installation manual
manuale d'uso ed installazione
manuel d'utilisation et d'installation
bedienungs und wartungsanleit
manual de uso e instalación
manual de utilização
使用及安装手册
ВИДЕОПРОЕКТОР

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The **TEATRO 80 - M80** projector uses the maximum in signal processing technology as well as the innovative DLP™ and a refined optical system.
Its range of inputs (1 Composite Video inputs, 1 S-Video inputs, 2 Component or RGB inputs (4 RCA connectors and 5 BNC connectors), 2 graphic RGB inputs, 6 HDMI™ inputs, 1 SDI input, 1 DVI-D input) allow it to be connected to a wide range of analogue and digital sources: DVD players, video recorders, satellite and terrestrial receivers, computers, video game consoles, camcorders, etc.
Its image processing system permits optimum reproduction of a wide range of input signals, from interlaced video to high definition and digital graphics.
Faithful reproduction of signals at higher resolutions (such as high definition video and graphics) occurs without loss of information or reduction of image sharpness thanks to the processor's high pixel rate signal acquisition capabilities.
Different input signal resolutions can be adapted to match the specified screen resolution without loss of image quality, thanks to a generous selection of default aspect ratios, some of which are user definable.
All picture adjustments can be made with the remote control interacting with a simple menu-activated On Screen Display; alternatively, the projector can be controlled by a home automation system through its serial port , the 1.1 USB port, an RS232 serial port or the RJ45 Ethernet port.

The appliance has been subjected to exhaustive operating tests by SIM2 to guarantee the highest quality.The projector bulb life should thus initially be around 30-60 hours.In addition to the customary checks, the Quality Control department also runs additional statistical tests before shipment.
In such cases, the packaging may show signs of having been opened, and the hours of lamp operation may prove to be higher than those normally shown when only standard tests are performed.

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HDMI, the HDMI logo and the expression High-Definition Multimedia Interface are trade marks or registered marks of HDMI licensing LLC

2 SAFETY WARNINGS

CAUTION

To reduce the risk of electrocution, disconnect the power supply cable on the rear panel before removing the top cover of the projector. For technical service refer to trained personnel authorised by the manufacturer.

LAMP WARNING

If the lamp suddenly explodes with a loud bang, air the room thoroughly before using it.
Do not attempt to replace the bulb: contact your local service centre for the replacement.

ENVIRONMENTAL INFORMATION

This product contains materials derived from natural resources during its manufacture. It may contain materials which constitute a health and environmental hazard. To prevent harmful materials from being released into the environment and to promote the use of natural materials, SIM2 Multimedia provides the following information regarding the disposal and recycling of the product. Waste electrical and electronic materials (WEE) should never be disposed of in normal urban waste disposal facilities. The label on the product, shown here, indicating a cancelled garbage can, is intended to remind you that the product requires special handling at the end of its service life.
Materials such as glass, plastic and some chemical compounds are recoverable and can be recycled for reuse. Please observe the following instructions:

1. When you no longer wish to use your electrical and electronic equipment, take it to your local waste disposal facility for recycling.

2. You may return your old equipment to your dealer free of charge when you buy a new product which is equivalent or has the same functions as the old one. Call SIM2 Multimedia to find your local dealer.

3. If you need more information regarding recycling, reuse and product exchanges, please contact customer service at the number given in the manual.

Lastly we suggest further measures to safeguard the environment, such as recycling of internal and external packaging (including that used for shipping) in which the product was delivered. With your help, we can reduce the amount of environmental resources required to make electric and electronic equipment, reduce the use of waste tips for used equipment and, in general, improve our quality of life by making sure that hazardous materials are correctly scrapped.

Incorrect treatment of the product at the end of its service life and failure to follows the above disposal instructions are punishable under local legislation.

Read all chapters of this manual carefully before switching on the projector. This manual provides basic instructions for using the TEATRO 80 - M80 system. Installation, preliminary adjustments and procedures that necessitate the removal of the top cover and contact with electrical components must be performed by authorised, trained technicians. To ensure safe operation and long term reliability use only the power cables supplied by the manufacturer. Observe all warnings and precautions.

Read this manual carefully.
This manual contains important information on how to install and use this equipment correctly. Before using the equipment, read the safety prescriptions and instructions carefully. Keep the manual for future consultation.

Do not touch internal parts of the units.
Inside the housing there are electrical parts carrying dangerously high voltages and parts operating at high temperature. Never open the housing. Entrust all servicing and repair work to an authorised Service Centre. Opening the housing voids the warranty.

Disconnecting the appliance from the power supply.
The device which disconnects the unit from the mains is the power plug. Ensure that the power cable plugs and the electrical mains socket outlets are easily accessible during installation operations. Pull the plug, not the cable, to disconnect the unit from the mains.
Use only the specified power supply.
Connect the units to a mains electrical supply with rated-voltage of between 110-240 VAC, 50/60 Hz and equipped with a protective earth connection. If you are not sure of your domestic mains rating, contact an electrician. Take care to avoid overloading the power socket and any extension leads.

Changing the fuses.
Before changing the fuse, disconnect the unit from the mains power supply.
The fuse compartment is next to the power supply connector. Remove the fuse holder with a flat head screwdriver and replace the fuse. Fit the replacement fuse. Use only type T 10A H fuses.

Be careful with cables.
Make certain cables are routed so that people will not be impeded or tripped up.
Keep all cables away from children.
Install the unit as close to the wall socket as possible. Avoid stepping on power cables, make certain they do not become tangled, and never jerk or tug them; do not expose them to sources of heat, and make sure they do not become knotted or crimped. If the power cables become damaged, stop using the system and request the assistance of an authorised technician.

Disconnect the unit from the mains power during electrical storms and when not in use.
To prevent damage from lightning strikes in the vicinity, disconnect the unit during storms or when the system is going to be left unused for a long time.

Avoid contact with liquids and exposure to damp.
Do not use the unit near water (sinks, tubs, etc.); do not place objects containing liquids on or near the units and do not expose them to rain, humidity, drops of water or sprays; do not use water or liquid detergent to clean them.

Do not allow the units to overheat.
To prevent overheating, allow a free space of at least 40 cm at the back of the projector.
Do not obstruct the ventilation slots.
Do not place the unit near heat sources such as heaters, radiators or other devices (including amplifiers) that generate heat.
Do not place the unit in an area where there is insufficient space (shelving units, bookshelves, etc.) and in general avoid placing it in poorly ventilated areas as this may prevent sufficient cooling.

Never look directly at the projection lamp.
Never look directly at the objective lens when it is on as the intense light may damage your eyes. Take particular care that children cannot do so.

Take special care regarding movement of the lens.
Do not place objects in the slots on the side of the lens, and also ensure that horizontal and vertical lens movements are not impeded by external objects.

Place the unit on a stable surface.
Place the projector on a stable surface or use the ceiling mounting bracket provided.
Never place the projector on its side or rear, on the lens or top panel.

Do not insert objects through the openings in the unit.
Make sure that no objects are inserted inside the units. If this should occur, disconnect the unit from the power supply immediately and call an authorised technician.

Power saving.
We advise disconnecting the unit from the power supply when not in use. In this way you will achieve considerable power savings while at the same time protecting internal electrical parts from wear.

PRODUCT DISPOSAL
This projector is fitted with a pressurised lamp containing a small amount of mercury. These lamps may be subject to special disposal regulations due to environmental considerations. For disposal or recycling information, please contact your local authorities or, if you are located in the USA, the Electronic Industries Alliance.

www.eiae.org
www.lamprecycle.org

3 UNPACKING

For easy extraction of the TEATRO 80 - M80 system from its cardboard box, follow the instructions shown here (Fig.1).

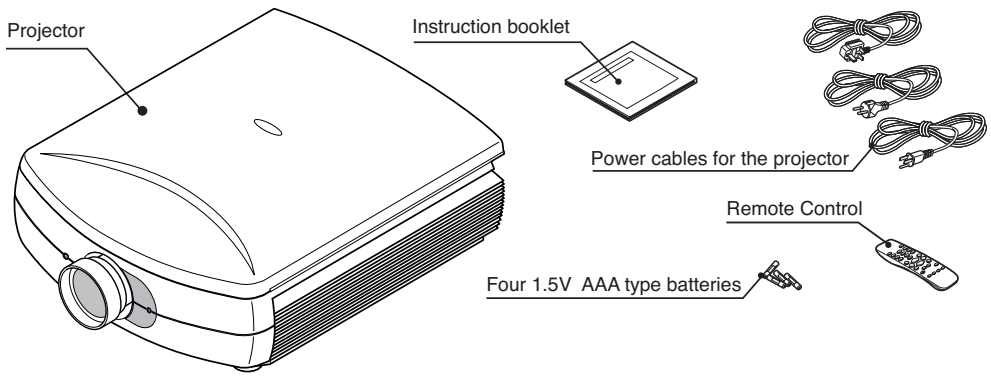
DUE TO THE WEIGHT OF THE EQUIPMENT, IT SHOULD BE UNPACKED BY TWO PERSONS.

Extract the cardboard structure that contains the instructions manual and the connection cables. Lift the projector, grasping it by the indentation on the side profiles.

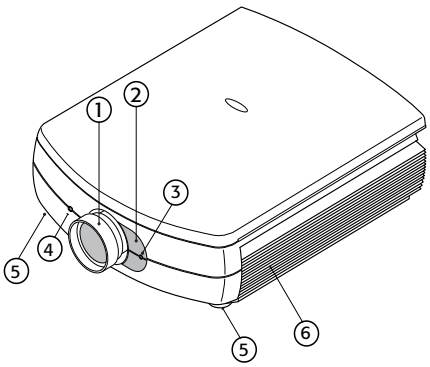
4 CONTENTS ON THE PACKAGE

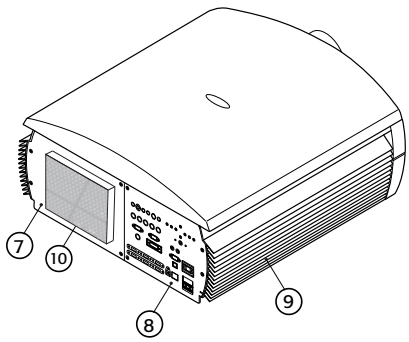
- projector
- remote control
- Four 1.5V AAA type batteries for the remote control
- network cables for the projector
- instruction booklet.

If any of the accessories are missing, please contact your dealer as soon as possible.



5 DESCRIPTION OF THE PROJECTOR





1	Projection objective lens.
2	Door for changing lens.
3	Front receiver for infrared remote control.
4	Objective lens release hole.
5	Height-adjustable support feet.
6	Ventilation grille for air intake.
7	Access compartment for changing bulb.
8	Connection panel
9	Ventilation grille for air outlet.
10	Ventilation grille for air outlet.

6.1 REMOTE CONTROL

BACKLIGHTING
Backlights the keys on the remote control.

INPUT
Displays input selection menu.

Access the following functions:
Test Pattern - Zoom - Focus

MENU -
Opens the On Screen Display menus and permits browsing though the various pages.

FREEZE
Freezes/unfreezes a moving picture.

ZOOM
Selects lens zoom adjustment.
Function Key F1

FOCUS
Sets the lens focus - Function Key F2

AUTO
Automatically optimises the projected image.

Standby / ON
Places the projector in standby mode.

KEYS 0-9
Selects the sources directly.
Switches the panel on from Standby.

ESCAPE
Disables the On Screen Display.

Up/down/left/right arrow keys
Lets you browse through the On Screen Display menus andparameter settings. Up/Down arrows open the quick menus.

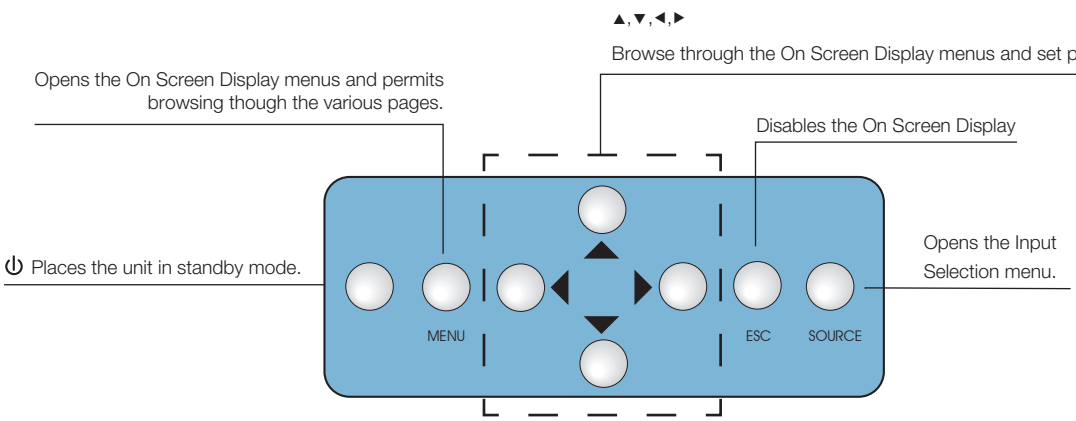
MENU +
Switches on the On Screen Display and browses through its pages.

MEMORIES
Activate the memory management menu.

INFO
Displays information on the selected source and projector status.

ASPECT
Selects the image Aspect ratio.

6.2 KEYPAD HT5000HB-PRO5DL


▲,▼,◄,►
Browse through the On Screen Display menus and set parameters.
Opens the On Screen Display menus and permits browsing though the various pages.
Disables the On Screen Display
Places the unit in standby mode.
Opens the Input Selection menu.
MENU
ESC
SOURCE

7 INSTALLATION

Place the projector on a stable surface or use the optional ceiling bracket.

WARNING: When using the ceiling mount bracket, the safety instructions provided with the bracket must be strictly observed. If you use a bracket other than the one provided by SIM2 Multimedia, make sure the projector is located at least 65 mm from the ceiling and that the bracket does not block the air intake and outlet slots.

If the image slopes left or right, adjust the two feet on the bottom to obtain a level position, lining up the base of the projected image with the base of the projection screen (Fig. 2).

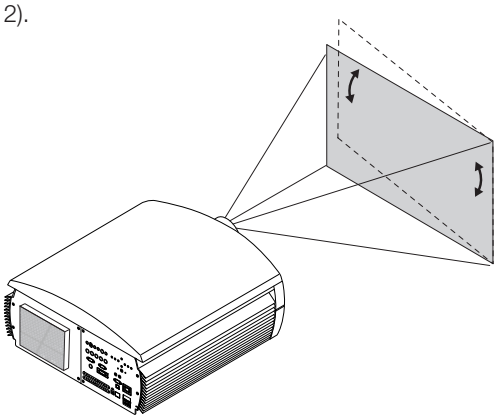


Fig.2

Placed the projector at the desired distance from the screen: the size of the projected image depends upon the distance between the lens and the screen and the zoom setting. Use the motorized zoom (Fig. 3) widen or to narrow the projected image.
Use the motorized focus (Fig. 3) to obtain the best definition of the projected image. If the focus is correct, from up close to the screen you should be able to distinguish each single pixel that makes up the projected image (Fig. 3).

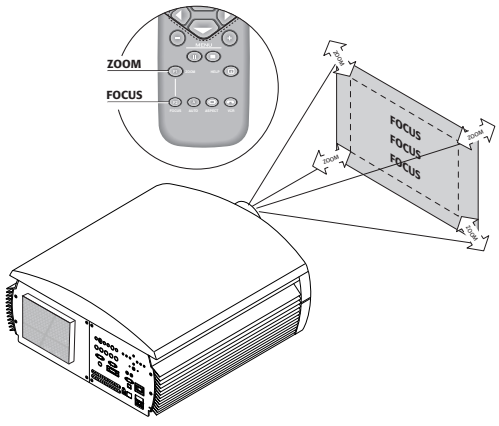


Fig.3

The image can be centred using the motorized lens control. Movements can be either vertical or horizontal (Fig.3a).

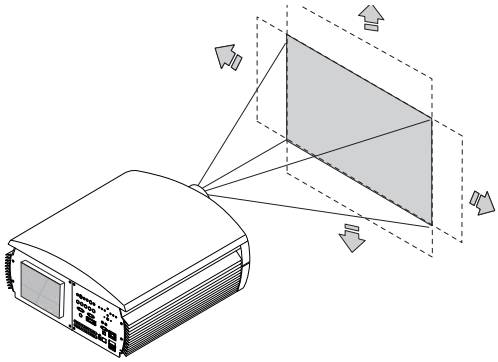


Fig. 3a

If this movement is not enough, you will need to tilt the projector and correct the keystone distortion using the keystone adjustment in the installation manual (Fig.4).

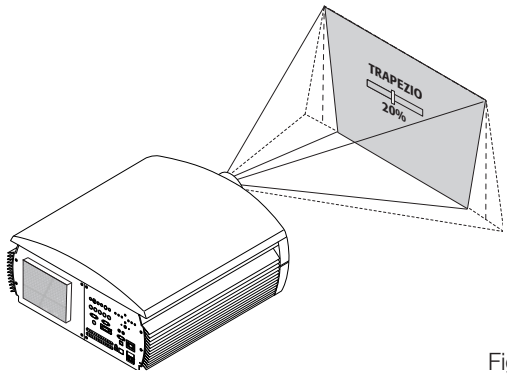


Fig. 4

Using the Orientation item in the Setup menu, you can either turn the projected image upside down or create a mirror image of it (Fig.5), so as to adapt it to the configurations of frontal, frontal on ceiling, rear, or rear on ceiling installation.

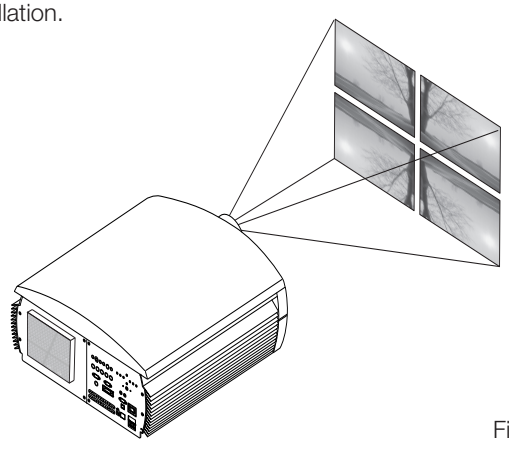


Fig. 5

It is possible to use a hideaway motorized screen. The activation switch can be provided using output **TRIG1** located on the back of the projector (Fig. 6).
This output is activated (voltage +12 V DC) when you turn the projector on. It is de-activated (no output voltage) when the projector is in standby status.
You can also use black motorized hideaway curtains to mark off the projection screen when you change the format of the projected image (Fig. 7). The activation command can be provided using output **TRIG2** located on the back of the projector.

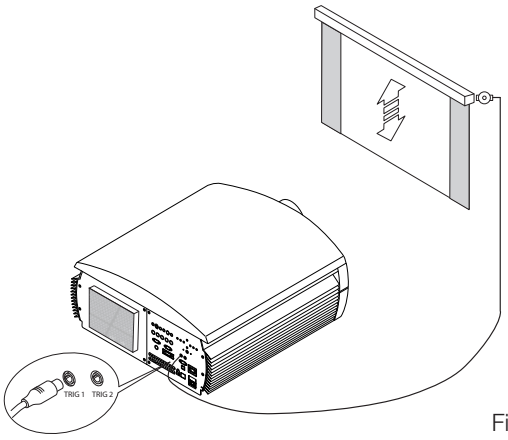


Fig. 6

For rear installations, a suitable translucid screen must be used. For front installations, it is advisable to use a screen with non-reflective black edges that perfectly fit the projected image.
You should use screen with unity gain. Directional screens with high gain may be used effectively only for small groups of spectators located at the centre of the screen.
Do not allow room lighting to shine directly onto the screen during projection. This would reduce the contrast image.
Keep the projection screen away from furniture or other objects with reflective surfaces, or light-coloured walls.

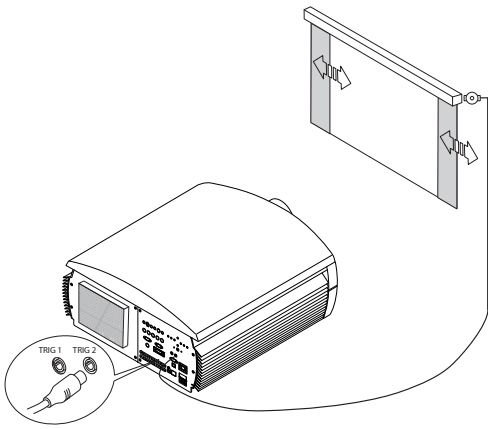


Fig. 7

8 START UP AND SHUT DOWN

ATTENTION: Connect the units to a mains electrical supply with rated voltage of between 110-240 VAC, 50/60 Hz and equipped with a protective earth connection (Fig. 8).

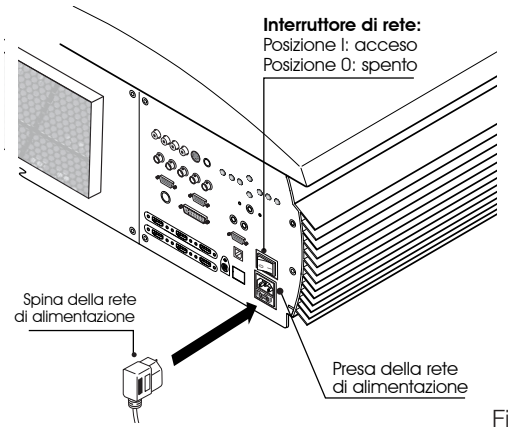


Fig. 8

In position I, the projector runs a number of initialization steps (red and blue lights on), and then it goes into standby status (red light on) (Fig. 9).

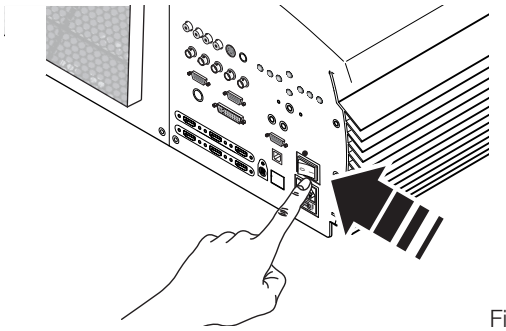


Fig. 9

START UP FROM STANDBY

From the remote control:
press one of the keys **1...9 or 0.**
From the keypad:
press the on/off key

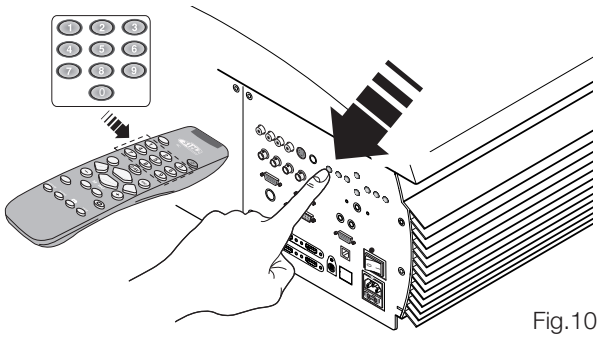


Fig.10

When starting from standby, the lamp comes on. After a short warm-up, the image appears (blue light on). The projected image comes from the input selected at the time of the last shutdown (Fig. 10).
If too little time has elapsed since the last shutdown, the lamp may not light if it is too hot.
In this case, you should let the lamp cool off for a few minutes.

SHUTDOWN AND RETURN TO STANDBY STATUS

From the remote control: press the key ⏻ .
From the keypad: press the ON/OFF key
Upon shutdown, the projector reverts to standby status, and memorizes the input selected at the time of shutdown.
The fans continue to run until the lamp is cool (red and blue lights on). Then they shut off automatically. Do not turn off the projector with the network switch until the fans stop running.

9 LED INFORMATION TABLE

Status	Led blue	Led rosso
Initialisation	▬	▬
Standby	▭	▬
On	▬	▭
Cooling	✸	✸
Error (*)	▭	✸

▭ : Off ▬ : On ✸ : Flashing

(*):
If an error is indicated, contact SIM2 Multimedia technical service.

10 CONNECTION PANEL

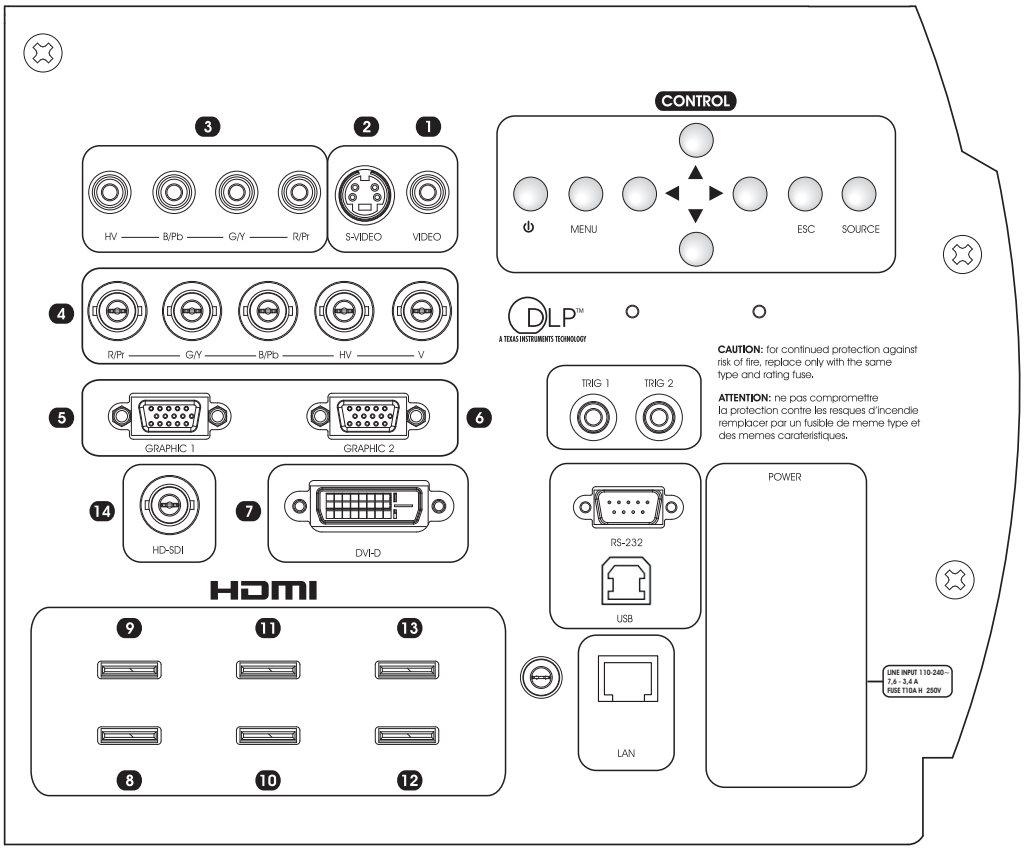


Fig. 11

1 2
Television receiver
DVD player
Video recorder
Camcorder
Video game console

3
Television receiver
HDTV receiver
DVD player
Video recorder
Video game console

4
Television receiver
HDTV receiver
DVD player
Video recorder
Video game console
Blue-Ray player
HD DVD player

7
HDTV receiver
DVD player
Computer

5 6
Computer

8 9 10 11 12 13
HDTV receiver
DVD player
Video game console
Blue-Ray player
HD DVD player

14
Professional and broadcasting equipment

COMPOSITE VIDEO

Fit an RCA connector with a Composite Video (CVBS) signal to this input.
The output connector on the external appliance is normally coloured yellow and will often be labelled VIDEO.
Other signal and socket formats may be preferable (because they give better image quality), but this type of output socket is still the most commonly used, and nearly all television receivers, video recorders, DVD players and camcorders, etc. use it.

S-VIDEO

Fit a mini-DIN connector with an S-Video signal to this input.
The corresponding output on the external device is normally identified by the labels S-VIDEO or Y/C. This type is nearly as common as Composite Video, and is preferable to the latter, since it gives higher image quality.

RGB/YPRPB

These inputs use a set of 4 RCA (3) connectors and 5 BNC (4) connectors. RGB and Component signals can be applied to each set of connectors.
If you use the RGB inputs you can select YPrPb video mode.
The RGB signals may have composite synchronisation on the green signal (RGsB), composite synchronisation on the HV signal and separate synchronisation on the H and V signals via BNC connectors. Connect the R, G, B outputs of the source to the respective R, G, B inputs of the TEATRO 80 - M80 (taking care not to invert the positions) and any synchronisation signals to the HV. With regard to the 3 sets of RCA connectors, when hooking up, use the colours of the RCA connectors as an aid as follows: the R connector is red, G is green, B is blue and HV is white.
You can use a SCART to RCA adapter cable to connect the RGB signal from a source equipped with a SCART output to this input.
The Component signals connect to the Y, Pr and Pb inputs: take care that the inputs match the outputs on the source device. As indicated in the table, the colours of the connectors can also be of help.
Only horizontal scanning frequencies of 15 kHz (standard video resolution) or 32 kHz or higher (high definition video, with progressive scanning, high definition video) can be applied to this input.
Progressive signals usually provide better quality than interlaced signals, but if the source features both progressive and de-interlaced signal outputs it is good practice to compare the quality of the pictures reproduced by the TEATRO 80 - M80 in the two cases: the de-interlacing performed by the TEATRO 80 - M80 is often more effective than that performed by the sources themselves.

GRAPHICS RGB / YPRPB

This input should be connected to an RGB/YPrPb type video or graphic signal using a cable with a DB15HD type connector. The signal source device (typically a personal computer or game console) must be able to provide separate H/V synchronisation or composite H+V synchronisation.

DVI-D

This input permits you to make the best use of digital image quality. If your source has a DVI-D output (with YPrPb or RGB signal), connect it to this input to get the most out of the TEATRO 80 - M80 system.

HDMI™

HDMI (High Definition Multimedia Interface) integrates an uncompressed high definition video signal with a multi-channel audio signal and allows exchange of control data between the video source and the TEATRO 80 - M80.
The HDMI™ input allows connection to video sources that use the HDCP (High-Bandwidth Digital Content Protection) protocol to protect their contents.
Once the video source has been connected to the HDMI™ input, internal processing by the TEATRO 80 - M80 separates the video information from the audio information.
You can use a DVI-D > HDMI adapter cable to connect the DVI-D signal from a source equipped with a DVI-D output.

SDI

The HDSDI/SDI input permits you to connect sources with serial digital outputs in YPrPb components in compliance with the SMPTE292M (high definition) and SMPTE259M-C (standard definition) standards. The signal, of the uncompressed type, is transmitted digitally by single coaxial cable, thus guaranteeing a high level of resistance to noise and disturbance.

OUTPUTS FOR ACTIVATING MOTORIZED SCREENS

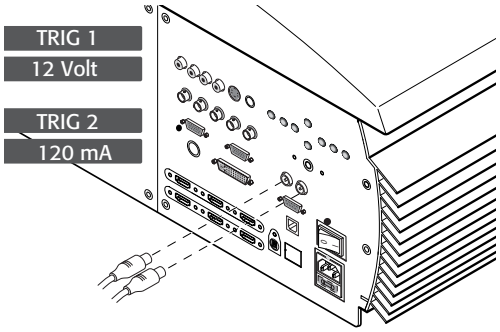


Fig. 12

The projector is equipped with two outputs (Voltage: 12 Vdc) for motorised projection screen and screen masking systems, used for masking off the projection area to match the projected image aspect ratio (Fig. 12).
The TRIG1 output is activated when the projector is switched on (blue LED on) and is de-activated when the projector is in standby mode (red LED on).
The TRIG2 output can be set with the Screen control adjustment in the Aspect menu. This output allows reduction of the area of a 16:9 screen, to a 4:3 format, by activating a horizontal screen masking system output.

RS232 INTERFACE CONNECTOR OR USB INTERFACE

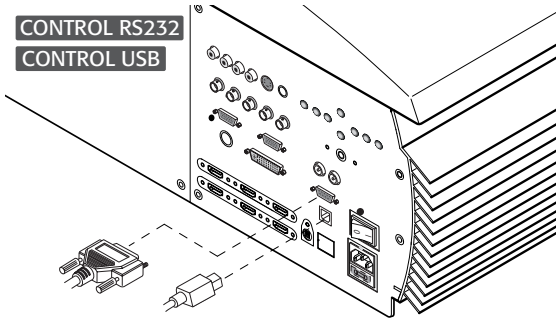


Fig. 13

You can control a projector from a PC by connecting to this connector a cable from an RS232 serial port or to a USB port of a PC (Fig. 13).

11 NETWORK FUNCTIONS (RJ45 CONNECTORS)

The HT5000 - PRO5DL projector is equipped with a 10/100 Mbit Ethernet interface by means of which the projector can be connected to a LAN or to the Internet.
The network connection can be used to remotely control the projector from any workstation with access to the network by sending TCP/IP protocol commands.
Additionally, by suitably configuring the network specifications, you can receive e-mail notifications on the operating status of the HT5000 - PRO5DL projector.

Configuring network functions by OSD (network setup):

The “Network configuration” option in the “Setup” menu is displayed only when no signal is being displayed (Fig. 14).

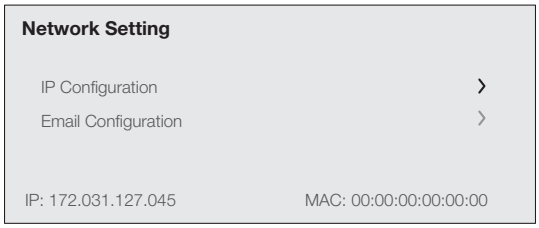


Fig. 14

This menu screen permits you to:

1. access the menu for setting the projector’s network address
2. access the menu for entering the e-mail address for receiving notifications on the projector status.

The projector’s current IP address and MAC address (physical address) are displayed at the bottom of the screen.

N.B. The system is delivered with default factory settings, in which the dynamic IP address (DHCP) is active. If the network to which the projector is connected has no DHCP server, the current IP address displayed on screen may not be valid.

TYPE OF IP ADDRESS

This screen permits you to select the type of IP address to be assigned (Fig. 15):

1. Static IP: the IP address, network SUBNET and GATE-WAY must be entered manually.
2. Dynamic IP (DHCP): choose this option if you want the projector IP address to be automatically assigned by the network DHCP server (in most networks the DHCP server is a router).

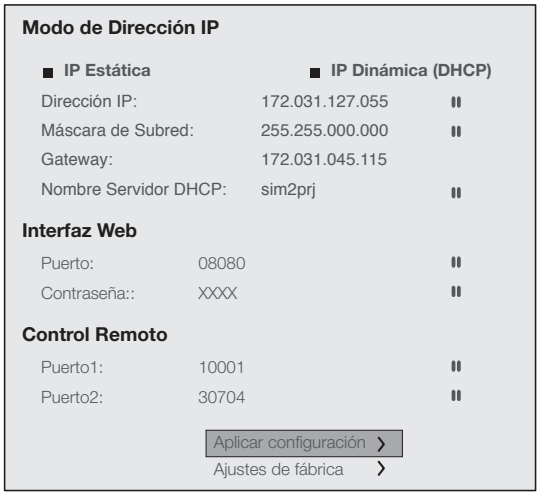


Fig. 15

REMOTE CONTROL

In order to control the projector by TCP/IP protocol, you must specify the TCP port to which the connection must be made (called TCP socket). Choose the port number and set “Port 1”.
If you want to establish a connection with the projector via the Internet, the port chosen for remote connection must be accessible from outside (usually a Virtual Server is created in the network router to make the projector’s IP address accessible from a Personal Computer connected to the Internet).

SAVING SETTINGS

Go to “SAVE CHANGES” to enable the chosen setup (wait for completion of the save procedure).

RESTORING SETTINGS

To restore the projector’s network setting to the default factory setting click on “Restore”. Wait for completion of the restore procedure.

EMAIL SETTINGS

This screen is used to define the operating parameters for notification of the projector status by e-mail (Fig. 16).

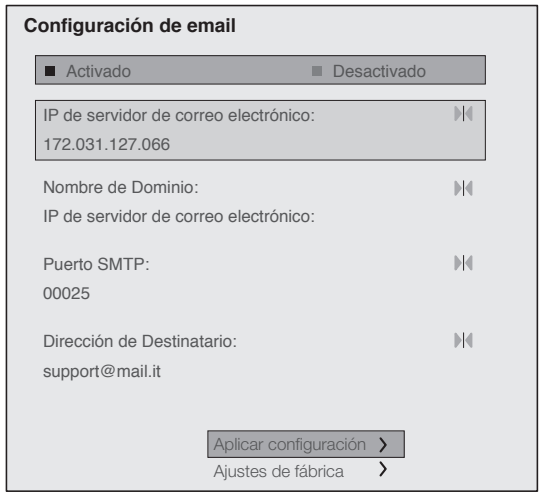


Fig. 16

- **Enabled:** notification service by email is enabled.
- **Disabled:** notification service by email is disabled.

Domain name, SMTP Mail Server: parameters to be entered according to the specific network settings to which the HT5000HB - PRO5000DL projector is connected.

N.B. After setting the network parameters you must turn off the projector using the network button.

DESCRIPTION OF THE NOTIFICATION MAIL SENT BY THE PROJECTOR

If the email notification service is enabled, the projector will automatically send an email to the specified address when the following circumstances occur:

Cooling fan error (Error Code 1)
Temperature too high (Error Code 2)
Lamp error (Error Code 3)
Communication error (Error Codes 4 e 5)

Email sender: “CCCCCCCCCCCCCCCCCCCExxx”

C: serial code of the projector sending the notification
X: error code

Email subject: “WWWWWLLLLLFFFFFFXXXYYY#

W: Total hours of projector use
L: Hours projector lamp on
F: Software firmware version
X: Operating status:
- 0 – OFF
- 1 – ON
- 2 – Lamp preheating
- 3 – Lamp switching back on
- 4 – Lamp cooling

Y: Specific status:
- 0 – None
- 1 – Blank
- 2 – Freeze
- 3 – Test Pattern

12 ON SCREEN MENU

All system functions can be operated from the keypad or remote control, with the aid of a complete, user-friendly on screen menu.

INPUTS

The input selection menu is opened by pressing 0 on the remote control or with the source key on the keypad. To select an input, scroll through the list with the ▲ and ▼ keys until the required input is highlighted, then press ►.
Input selection menu display terminates if you press the ESC key or when the On-Screen Menu display timeout interval (set in the Setup Menu) has elapsed or after the signal has been recognised.
Some inputs can receive RGB and YPrPB signals.
The input and type of signal (RGB or YPrPb) are set in the pull down menu that is displayed to the right of the symbol < when you press the key ◄ (Fig. 17).

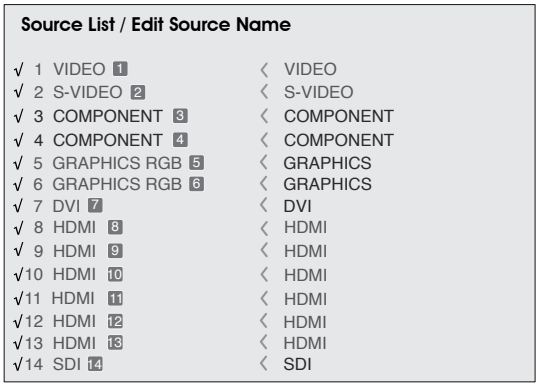

Source List / Edit Source Name
√ 1 VIDEO 1 〈 VIDEO
√ 2 S-VIDEO 2 〈 S-VIDEO
√ 3 COMPONENT 3 〈 COMPONENT
√ 4 COMPONENT 4 〈 COMPONENT
√ 5 GRAPHICS RGB 5 〈 GRAPHICS
√ 6 GRAPHICS RGB 6 〈 GRAPHICS
√ 7 DVI 7 〈 DVI
√ 8 HDMI 8 〈 HDMI
√ 9 HDMI 9 〈 HDMI
√10 HDMI 10 〈 HDMI
√11 HDMI 11 〈 HDMI
√12 HDMI 12 〈 HDMI
√13 HDMI 13 〈 HDMI
√14 SDI 14 〈 SDI

Fig.17

After selecting the signal that arrives from the source (using the ▲ and ▼ keys), press MENU+/MENU- to confirm and exit the pull-down menu; to the right of the < symbol, you will see the setting you have just entered.

During the short time that it takes to find the signal, a box will appear showing the signal requested. Additional information regarding the signal such as the video standard (for video signals) or definition (for graphic signals), the aspect and the current user memory can be displayed by pressing the number key on the remote control corresponding to the selected source.
In the SETUP menu you can select whether or not to display this information; for further information see SOURCE INFORMATION in the MENU section.

MAIN MENU

Press the MENU key on the keypad or the MENU+ or MENU- key on the remote control to access the main menu of the On Screen Display.
The main menu is divided into four windows, PICTURE, IMAGE, SETUP and MENU, in which the various adjustments are grouped according to the frequency of use. Use the ▲ and ▼ keys to select the line corresponding to the adjustment you wish to make (Fig. 18).
The various menus offer only adjustments corresponding to the type of input signal displayed (e.g. certain typical adjustments for video signals, not necessary for graphic signals, do not appear on the menus for the latter, and vice versa).
Some adjustments (E.G. BRIGHTNESS and CONTRAST) are associated with a numerical value that can be modified within the set limits using the ◄ and ► keys.
For others (e.g. MODE) you can choose between two options offered on the same line and selectable using the ◄ and ► keys.
Other settings can be selected from submenus, which appear as an superimposed window in which you make selections by pressing the ▲ and ▼ keys (Fig. 19a/b).

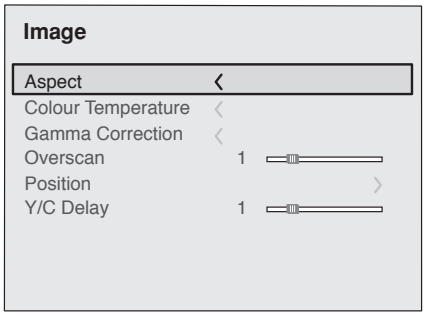


Fig.18b

These sub-menus are accessed by pressing the key <. To exit and return to the upper level, press the keys MENU+/-. To stop viewing the menus, press ESC on the remote control or keypad, or wait for them to disappear automatically after the number of seconds set in the SETUP page.

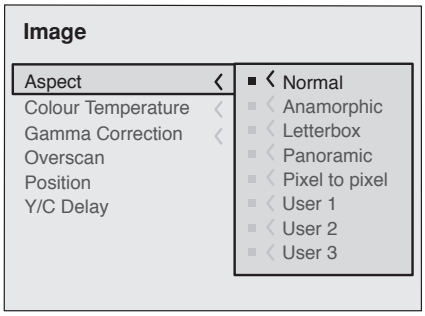


Fig. 18a

PICTURE

The setup menu groups adjustments that have an impact on the image characteristics. Any adjustments not available for a given input will not be displayed in the menu. Table 4 summarises the adjustments available for each input. For a complete list of the on screen menus, refer to the paragraph STRUCTURE OF ON SCREEN MENUS in the chapter ADDITIONAL INFORMATION.

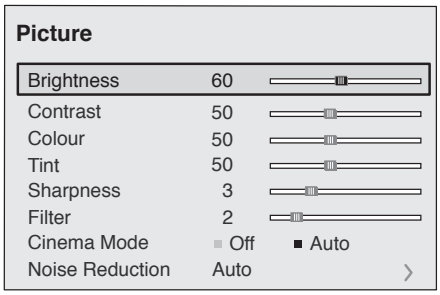


Fig.19

BRIGHTNESS

Use this control to adjust the darker areas of the picture (black level), without affecting bright areas. Increasing the value will give more detail in darker parts of the picture.
For correct adjustment it may prove useful to display a grey scale with at least twenty bands.
Now try to reduce the brightness of the black band as much as possible while ensuring that it can still be distinguished from the adjacent band with brightness slightly higher than black. Alternatively use a scene composed of black objects alongside other dark coloured objects and try to ensure that all the objects can be separately identified.

CONTRAST

Use this control to adjust the images white level without affecting its dark areas. For correct adjustment it may prove useful to display a grey scale with at least twenty bands.
Now try to increase the brightness of the white band as much as possible while ensuring that it can still be distinguished from the adjacent band with brightness slightly less than white. Alternatively use a scene composed of well-lit white objects surrounded by light objects with lower level lighting, and try to ensure that all the objects can be separately identified.

COLOUR

This control (also called Saturation) increases or decreases the picture colour intensity. When set to zero, colour images will be shown in black and white.
Increase the value until the colours appear natural: suitable references include skin tones and the blue in grass in landscape shots.

TINT

This adjustment controls the purity of colours. Basically it determines the red-green ratio of the picture.
Decreasing the value increases the red content of the image, increasing it increases the green content. For this adjustment use skin tones or a test card image with colour bars as a reference.

SHARPNESS

This adjustment serves to modulate the signal to increase or decrease the level of picture detail. When the sharpness value is reduced the image details appear less pronounced, while increasing the value raises image definition, making the outline of objects sharper. Note that an excessively high value may result in a noisy picture and the edges of objects may appear unnaturally clearly defined.

SHARPNESS MODE

This allows you to select the type of processing associated with sharpness adjustment. For an interlaced or progressive video signal, set to VIDEO; for PC graphics signals, set to GRAPHICS. If the VIDEO option is set, it applies Noise Reduction to increase the clarity of the image.

FILTER

This allows you to select the mode in which the input signal is processed. Selecting the most appropriate value for a

given input signal ensures the best horizontal and vertical definition and makes the picture sharper.

CINEMA MODE

Use this option if the video signal source is a movie film (obtained from a Telecin device with 3:2 or 2:2 pull-down). In this case a de-interlace algorithm optimised for this type of signal is applied.
Selecting AUTO mode causes the de-interlacer to analyse signal characteristics and apply the correct de-interlace mode automatically.

Adjustement	Inputs					
	Video S-Video	RGBS 15kHz YPrPb 15kHz	RGBS	YPrPb	RGB Grafico	SDI HDMI™ DVI
Brightness	•	•	•	•	•	•
Contrast	•	•	•	•	•	•
Color	•	-	-	•	-	• (4)
Tint	(1)	-	-	-	-	-
Sharpness	•	•	•	•	•	•
Sharpness mode	-	•	•	•	•	• (4)
Filter	•	•	-	-	-	-
Cinema mode	•	•	-	(2)	-	(2)
Noise reduction	•	•	(3)	(3)	(3)	(3) (4)

(1) Present only if STANDBY VIDEO is NTSC
(2) Present only for interlaced video signals
(3) Presento only if SHARPNESS MODE is set on VIDEO
(4) Not avaible when DVI singol type is RGB

If you select NO, the de-interlacer always applies an optimized motion compensated algorithm for signals from a camera.
Present on all interlaced models.

NOISE REDUCTION

This adjustment lets you choose the value of the noise reduction filter.
This adjustment is available for all interlaced signals, but for progressive inputs it is available only if SHARPNESS MODE is set to VIDEO.

IMAGE

This menu features adjustments relating to picture position, aspect ratio, magnification etc. (Fig. 21).

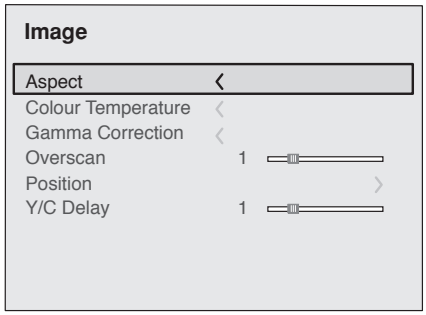


Fig.21

ASPECT

This adjustment allows you to change the dimensions and aspect ratio (relationship between width and height) of the displayed image. There are six default aspects available and three user aspects (with user-settable parameters). You can select a different aspect for each source: the selected aspect ratio will be automatically applied the next time the relative source is displayed.
You can also select the required aspect ratio from the remote control by repeatedly pressing the key ◀▬▶ or by pressing the key ◀▬▶ and one of the number keys (1...8).
The following aspects are available:

Normal: projects the image occupying the full height of the screen while maintaining the aspect ratio of the input signal. When the input signal aspect ratio is 4:3, black vertical bands are displayed on the right and left of the picture.

Anamorphic: correctly displays a 16:9 image.

Letterbox: displays a 4:3 letterbox image (source signal with black bands above and below the picture) in such a way that it fills the 16:9 screen and maintains the correct aspect.

Panoramic: widens the 4:3 image cutting off a strip from the top and bottom. Panoramic is ideal for displaying a 4:3 image on the 16:9 screen of the Display.

Subtitles: this moves the image upwards, making room for the subtitles to be seen.

Pixel to pixel: makes a pixel to pixel map of any image, without introducing any alteration to adapt it to the screen. The image is projected in the centre of the screen and if its horizontal and/or vertical dimensions are smaller than the display, it is bordered by vertical and/or horizontal black bands.

Personal 1, 2, 3: can be used if none of the preset formats are satisfactory. User formulas make it possible to continu-

ously adjust the picture size horizontally and vertically and hence the aspect ratio.

The PULL DOWN menu, available for each aspect, permits you to enable/disable the outlet to control the motorised curtains used to block off the sides of 16:9 format projection screens or the top and bottom of 4:3 format screens.

COLOUR TEMPERATURE

Changes the colour balance of the image.
It is possible to define the position of the primary colours (red, green and blue) using 5 preset settings (Fig.22).

The default settings are:
NATIVE (the projector's native primary colours)
HDTV, EBU, SMPTE-C, primary colours defined by the standards
AUTO, mode that applies one of the standard settings described above.
PC, mode available only if the projector has received Colour Temperature instructions by connection to a PC and using Live Colours Calibration software.

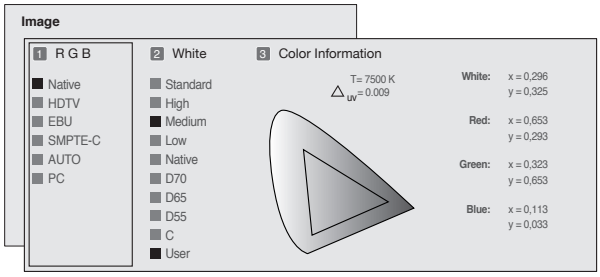


Fig. 22

For use of settings in the column **"1 RGB",** there are 9 available preset settings of the white balance.

The default settings are:
STANDARD applies a certain white balance depending on the standard selected in column **"1 RGB"** (Fig. 23)
HIGH - MEDIUM - LOW (default white balance levels);
NATIVE (the machines native white balance);
D75 - D65 - D50 - C standard CIE illuminants;

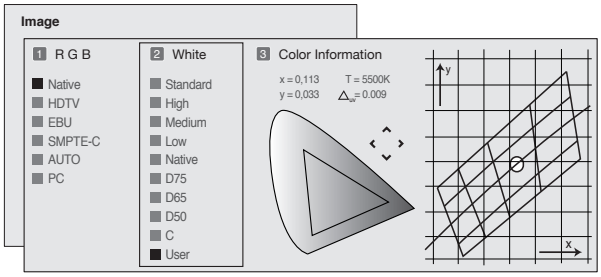


Fig. 23

If the default white settings are not sufficient, you can adjust the white balance manually.
Colour temperature can be adjusted by positioning the white point within the CIE chromaticity diagram. The system permits you to place the white point inside a grid positioned in the neutral colour zone. Moving along the horizontal lines changes the related colour temperature, with low temperatures on the right (thus increasing the red content) and high temperatures on the left of the graph (thus increasing the blue content). Points along the yellow horizontal line represent the white balances on the black body curve. The colour temperature along the vertical lines is constant even if it differs to a lesser or higher degree from the black body curve. This means that by selecting the points on the higher part of the graph you will increase the green component. On the contrary, by selecting points in the lower part of the graph, the purple component increases.

GAMMA CORRECTION

Determines the systems response to the grey scale, emphasising or attenuating the different grades of brightness (blacks, dark, medium and light greys, whites) in the projected image.
The projector has a range of gamma functions which enable you to display any image to the best effect for the type of video source, the ambient lighting and your subjective preferences.
There are 3 sets of gamma curves: Standard (ST), Enhanced SIM2 (EN) and Graphics (GR). The Standard curve has been defined for general use, and is set for camcorders, digital cameras, and for viewing films or photos from your PC. The Enhanced set is suitable for watching movies. The Graphics set is suited to displaying synthetic graphics (PC, CAD, PC presentations, etc.).
By choosing User you can define your own curve. You can thus select the coefficient which determines the curve. Coefficient values from 1.5 to 2.2 allow you to emphasise the detail of dark images, while reducing overall contrast. Values higher than 2.2 increase overall contrast, but reduce the detail of dark areas. For the most common video sources, if you set the parameter to 2.2, you will obtain pleasant and well-contrasted images.

OVERSCAN

Eliminates irregularities around the outer borders of the image.
Some less accurate sources may produce an image with uneven borders; thanks to the overscan function these imperfections can be moved outside the projected area.

GAMMA CORRECTION SETTING

Standard

ST1 For general use.

Enhanced SIM2

EN1 Suitable for displaying images from camcorders, digital cameras or TV studios in bright ambient light.

EN2 Suitable for displaying images from camcorders, digital cameras or TV studios in poor ambient light.

EN3 Suitable for projecting films in bright ambient light.

EN4 Suitable for projecting films in moderate ambient light.

EN5 Suitable for displaying graphic images (e.g. Windows Desktop) in moderate lighting conditions.

Graphics

GR1 Suitable for displaying graphic images (e.g. Windows Desktop) in moderate lighting conditions.

GR2 Suitable for displaying graphic images in controlled lighting conditions.

User

USER Possibility of defining the curve by entering parameters. The curve is defined by the user.

POSITION

Use this adjustment to position the image vertically and horizontally. These parameters do not normally require adjustment because the system checks the input signal and automatically sets the most suitable values. However, if the image is not perfectly centred it may prove useful to make the system repeat the input signal analysis and image positioning, requesting the automatic control procedure with button A on the remote control.
When this procedure is requested it is helpful to have a white or light coloured background in the current picture on the screen.

Y/C DELAY

Where Video and S-Video signals are concerned, it may be necessary to correct horizontal colour misalignment within the projected image. For a given video standard (e.g. PAL or NTSC) the stored value does not normally require further adjustment, unless the source or connection cable is changed.

FREQUENCY/PHASE

These adjustments, available for progressive signals and for signals from a PC, ensure correspondence between the number of pixels making up the signal and the number of pixels that make up the projected image.
It is not normally necessary to adjust these parameters because the system checks the input signal and automatically sets the most suitable values. If however the image is disturbed (loss of resolution between equidistant vertical bands or instability and lack of detail in thin vertical lines) it may help to ask the system to rerun the input signal analysis and set the best parameters by requesting the automatic adjustment function with button A on the remote control or AUTO on the keypad. If the automatic procedure fails to achieve the required effect, enter the frequency and phase values manually and move sufficiently close to the screen to observe the effects of the adjustments.

Regolazioni	Ingressi					
	Video S-Video	RGBS 15kHz YCrCb 15kHz	RGBS	YCrCb	RGB Grafico	SDI HDMI™ DVI
Aspect	•	•	•	•	•	•
Color Temperature	•	•	•	•	•	•
Gamma Correction	•	•	•	•	•	•
Overscan	•	•	•	•	•	–
Position	•	•	•	•	•	–
Y/C Delay	•	–	–	–	–	–
Frequency	–	•	•	•	•	–
Phase	–	•	•	•	•	–

Fig. 24

SETUP

This menu includes the less frequently used adjustments which may be helpful during installation (for example, the selection of the language for the On Screen Display or the display of test images) (Fig.25).

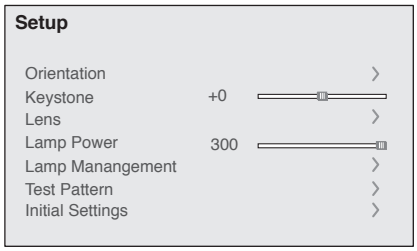


Fig.25

ORIENTATION

Reverses the image vertically and horizontally to best fit the installation: i.e. desktop front, ceiling front, desktop rear and ceiling rear.

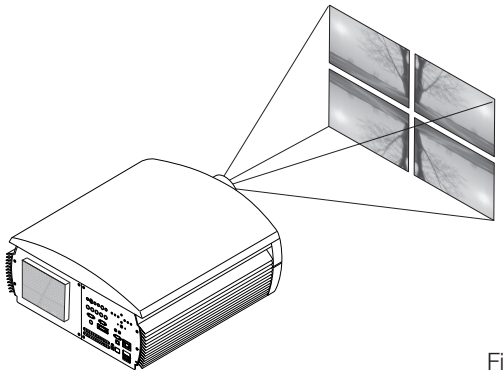


Fig.26

HORIZONTAL/VERTICAL KEYSTONE

To achieve the best image quality, we recommend installing the projector on a surface which is perpendicular to the screen. If the image slopes left or right, adjust the feet on the bottom of the projector to obtain a level position, lining up the base of the projected image with the base of the projection screen (Fig. 27).

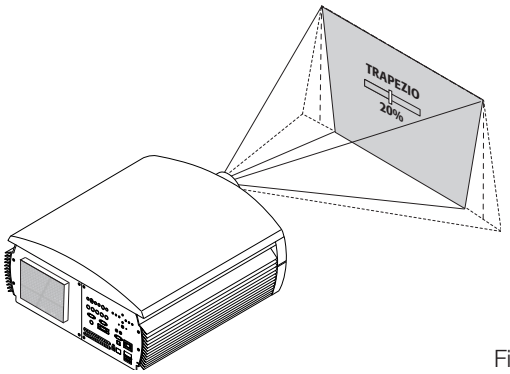


Fig.27

If this adjustment is insufficient to centre the image on the screen, tilt the projector and use the Vertical/horizontal keystone adjustment to compensate for the resulting distortion.

LENS

The ZOOM adjustment controls the motorised lens zoom, permitting you to zoom in or out, enlarging or shrinking the projected image.
This permits you to access the optic zoom control, where the ◄ and ► keys zoom in and out.
FOCUS adjustment changes the motorised lens focus.
It provides the maximum definition of the projected image. Exact focusing should make it possible, from near the screen, to distinguish every single pixel that makes up the image. With the initial settings of the projector, the configurable keys of the remote control (F1, F2) perform the functions of optical zoom and optical focus (Fig.30).

POWER ON

If active (AUTO) , this option permits the system to be switched on whenever the projector is connected to the mains power supply.
In STANDBY mode the projector remains in STANDBY mode and awaits the power-up command from the remote control or keypad.

TEST PATTERNS

Displays a series of five test patterns, which are useful when installing the system and checking basic functions. Use the ◄ and ► keys to select the various test patterns (Fig. 28).

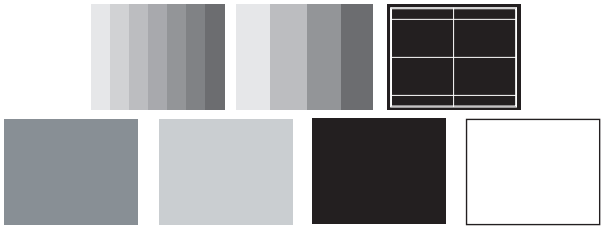


Fig.28

INITIAL SETTINGS

Resets the projector to its initial factory settings (except Position, Orientation, Y/C Delay, Zoom and Focus). Before performing this operation, confirmation is requested (Fig.29).

Fig.29

LAMP POWER

If your projection room is especially dark, the images projected by the TEATRO 80 - M80 system may appear to be excessively bright. Use the LAMP POWER function to reduce the power used to operate the lamp while achieving maximum image quality. In this way, the brightness of the image will be adapted to your projection conditions guaranteeing that the lamp lasts longer.

MANAGEMENT OF LAMPS

The projector has two lamps with the following operating modes (Fig. 30):

- **Double,** with both lamps in operation, for maximum brightness from the projector
- **Single,** with only one lamp on, for longer-lasting lamps.

Fig.30

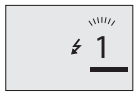
Any variation takes place only after pressing the confirmation key (+). The confirmation may take effect:

- **immediately**, for transition for 'Double' to 'Single' mode or vice versa
- **delayed** (at next start-up from standby), for transition in the ambit of Single mode.

IN THE GRAPHIC REPRESENTATION:

Fig.31

- a selected lamp is shown by having the corresponding number underlined
- a lamp that is in operation is shown with a symbol above the corresponding number
- a lamp being turned on or cooling off is shown by symbols alongside the corresponding number.



Lamps being lit
(this symbol appears when a lamp is being lit)

Lamps in cooling phase
(this symbol appears when a lamp is cooling off)

Malfunction
A malfunction in indicated in the graphic description by the symbol '!'.

Lamp not working
(this symbol appears after a series of attempted uses are unsuccessful).

If a lamp fails to light, the projector will attempt to provide projection in the best conditions possible:

- if in "Double" mode, by turning on the lamp that is still working
- if in "Single" mode, by turning on the other lamp, i.e. the one that is not selected.

MENU

LANGUAGE

Makes it possible to select one of the languages available for the On Screen Display menus.

SOURCE LIST

In order to make the TEATRO 80 - M80 system increasingly flexible, the functions described below make it possible to modify the input selection menu and adapt it so that it matches the requirements of the user more closely. The main page displays all the source inputs physically connected to the projector.
You can delete any inputs which are not in use. To do this, select the input in the pull down menu which appears when you press ◄, and choose whether to enable or disable the input (Fig. 32).
Enabling or disabling of sources will automatically cause the renumbering of the remaining active inputs.

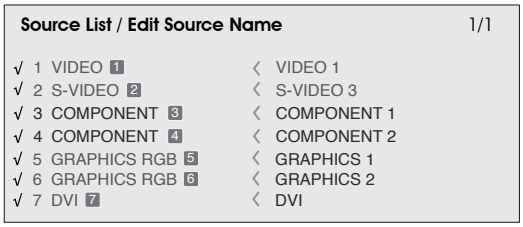

Source List / Edit Source Name 1/1
√ 1 VIDEO 1 〈 VIDEO 1
√ 2 S-VIDEO 2 〈 S-VIDEO 3
√ 3 COMPONENT 3 〈 COMPONENT 1
√ 4 COMPONENT 4 〈 COMPONENT 2
√ 5 GRAPHICS RGB 5 〈 GRAPHICS 1
√ 6 GRAPHICS RGB 6 〈 GRAPHICS 2
√ 7 DVI 7 〈 DVI
Source List / Edit Source Name 2/2
√ 8 HDMI 8 〈 HDMI 1
√ 9 HDMI 9 〈 HDMI 2
√10 HDMI 10 〈 HDMI 3
√11 HDMI 11 〈 HDMI 4
√12 HDMI 12 〈 HDMI 5
√13 HDMI 13 〈 HDMI 6
√14 SDI 14 〈 SDI

Fig.32

Active video signal sources (shown in the input selection menu) are ticked.
It may be useful to identify the input with a user defined name rather than the type of signal (for example, with the name of the connected device).
When you have decided to display an input, select NAME in the pull-down menu and rename the source currently in use.
This makes it easier to remember which source is connected to a given input; you can use up to 12 alphanumeric characters for the name (for further details, see ENTERING TEXT).

Entering text

The text entry menu shown in Fig. 33 makes it possible to enter text quickly and easily.

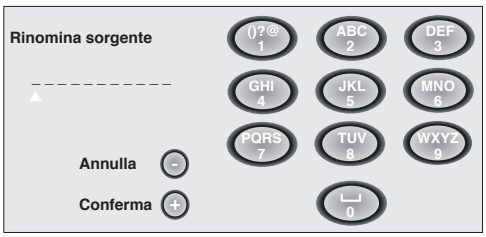


Fig.33

Text input mode is the same whether you are editing an existing name or entering a name for the first time. Characters can be entered in any of the available positions (represented by horizontal lines). Use the ◄ and ► keys to move the cursor left or right respectively.
Press the number key corresponding to the character; pressing once selects the first character, twice, the second character and so forth. The available characters are shown in the text entry menu that appears in this setup mode. Once you have entered a character, move to the next space on the right to enter the next with the ► key on the remote control, and repeat the procedure. This applies even if the letter is associated with the same key as before. Use the ▲ key to switch from upper case to lower case characters and vice versa. Cancel errors with ▼ after selecting the character to be cancelled. Once you have completed the text entry procedure confirm your text and save it by pressing the MENU+ key on the remote control.If you wish to cancel the changes, press MENU- on the remote control.

F1-F2 KEYS

The remote control is equipped with two keys (F1 and F2) which are associated with various different functions.
The screen shows six options, one for each line, and two columns indicating the keys F1-F2. You can select F1 and F2 with the ◄ and ► keys on the remote control; select the function to assign to F1 or F2 with the ▼ and ▲ keys
The function performed by the key is indicated by the dot at the line-column intersection (Fig.34).
The six menu items are described below.

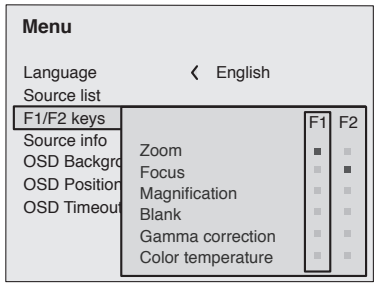


Fig.34

Focus

Once selected, the keys ◄ and ► allow the image to be focused.

Enlargement

Activates the electronic zoom, the keys ◄ and ► zoom in on the image. If you press the key again you will enter PAN mode in which the ◄ and ►, ▼ and ▲ keys enable you to pan over the enlarged image. When the ▼ key is pressed a third time, the system resets the projector to original viewing settings.

Blank

Switches off the video signal and displays a blank screen. As soon as the key is pressed an OSD message lasting a few seconds confirms that the function has been activated. You can restore the previous conditions by pressing any key on the remote control.

Gamma correction

Successive pressing of the key in question (F1 or F2) makes it possible to select any of the available gamma curves.

Source Information

When enabled (YES) each time the source is changed information regarding the signal type is displayed. If disabled, (NO) no information on the source is displayed.

Osd Background
Determines the type of background for the On Screen Display opaque or transparent.

Osd Display Timeout
Determines the On Screen Display timeout after the last event (adjustment using remote control or keypad).
The adjustment is made using the ◄ (decrease) and ► (increase) keys within a 6-200 second timeframe.

Osd Position
Positions the On Screen Display in a particular area of the projected image. The OSD can be positioned using the arrow keys for fine adjustments or keys 1...9 on the remote control to select one of 9 default positions.

MEMORIES

The main picture parameters can be saved in discrete sets of values called MEMORIES so that they can be subsequently applied as a group using a single command.
There are 6 separate Memories (Memory 1, Memory 2.... -6) for each of the 14 signal types handled.

The following image parameters can be saved/recalled by the Memory Management system:

Image	Picture
BRIGHTNESS	ASPECT
CONTRAST	COLOUR TEMPERATURE
COLOUR	OVERSCAN
TINT	GAMMA
SHARPNESS	
FILTER	
NOISE REDUCTION	

Some of these parameters may not be available for certain inputs or certain input signals, as indicated in Tables 4 and 5.
The Memory Management function menu page is activated by pressing the ■ key on the remote control.

Saving a memory
To save the current image settings in Memory 1, move the cursor to line 1 using the ▼ and ▲ keys and open the drop-down menu by pressing the ◄ key (fig. 35). Select the “Save initial settings” line. The message, “Initial settings saving in Memory 1” will be shown at the bottom of the display to confirm that the operation has been completed. Repeat the operation to save other image settings in new memories.

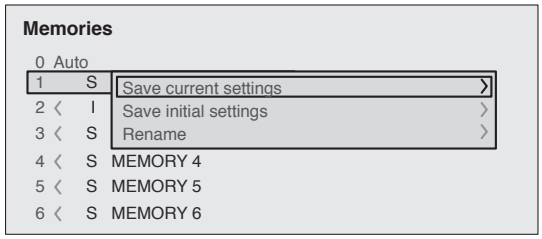


Fig.35

Using a memory
To use a Memory, select the line in question and press the ► key. The settings stored in the memory you have selected will be applied to the projected image, while a message will confirm that Memory has been applied. The memory will be associated with the particular source and signal type and will be automatically applied whenever that particular combination of source and signal type is selected.

Restoring initial settings for a memory
When you need to restore the initial settings in a Memory that has previously been modified, select the line referring to the

Memory in question and open the corresponding pull-down menu (key ◄). Then select the “Save initial settings” line. A message stating “Initial settings saved in Memory 1” will appear at the bottom of the display.

Renaming a memory

All Memories can be named. To assign a name (with a maximum length of 12 alphanumeric characters) to a Memory, select the Rename option from the corresponding pull-down menu. Enter the text as described in the paragraph TEXT ENTRY.

Restoring current settings

When you enter the MEMORIES menu a copy of the current settings is saved in a temporary memory (marked 0 - AUTO). Once one or more memories have been recalled, you can restore the settings that were effective at the moment the Memories menu was accessed by selecting Memory 0 (0 - AUTO). Note that this operation must be performed before the MEMORIES menu page disappears (30 seconds after the last operation with the remote control or keypad). The next time it appears, in fact, the temporary memory will contain new information that takes account of any Memories selected on the last time but one that the MEMORIES page was accessed.

Memory 0 can be used even when you do not wish to enable Memories management for the signal in use. In fact, once Memory 0 has been selected, when a source is chosen, the settings that were effective at the time the Memory was previously recalled will be automatically applied.

INFO

Displays the current operating status of the projector and information concerning the projected video/graphic signal. This function is displayed by pressing the key ⓘ on the remote control (or, when the On Screen Display is not enabled, the ► key on the keypad).

QUICK MENUS

The quick menus provide access to the main adjustments that affect image quality without opening the main menu. BRIGHTNESS, CONTRAST, COLOUR, TINT, SHARPNESS, FILTER and NOISE REDUCTION adjustments appear at the bottom of the screen one after the other when the ▼ and ▲ keys are pressed.

MESSAGES

The following messages may appear on your screen:

No signal

The system does not recognise any signal applied to the selected input. In this case:

- Make sure the selected input is connected to a video or graphic signal and that that source is functioning correctly.
- Check the condition of the cables used to connect the system to the various sources.
- Make sure the video or graphic signals supplied by the source are compatible with the system’s technical specifications and, in particular, with those of the selected input.

Out of range

This message appears when either the resolution or the vertical/horizontal frequency of the input signal exceeds system specifications (e.g. a QXGA graphic signal).

13 CLEANING AND MAINTENACE

The projector does not require internal adjustment.
There are no user serviceable parts inside the projector.
To replace the bulb or any other repairs, contact your local service centre, whose engineers will be happy to efficiently solve any problem. Use a soft cloth to clean the projector housing, if necessary slightly dampened with water and a small amount of neutral soap. Do not rub the rear panel markings.
The lens may be cleaned with a small very soft, non-abrasive brush, to remove dust particles. Alternatively, use a soft dry cleaning cloth (of the type used for camera lens cleaning) to remove fingerprints and grease marks.

We suggest cleaning the filter every time that the lamp is changed.

14 TROUBLESHOOTING GUIDE

NO POWER (LEDS ALWAYS OFF)

- Check that the projector's power switches are in position I.
- Check that the power cables are correctly connected to the projector's power sockets.
- Check the condition of the fuse located next to the power socket at the rear of the projector.
- Replace the fuse located on the projector's power socket with an identical type (T 5A H).
- If the fuse blows repeatedly, seek technical assistance from your nearest service centre.

LAMP FAILS TO SWITCH ON

- If this happens immediately after the last time the unit was switched off, allow a few minutes between switching off and switching on again. This will allow the lamp to cool down to the optimum temperature for switching on.
- If the lamp fails to light - even though the unit has had time to cool down - seek technical assistance from your nearest service centre.
- Check the state of the connection by using Table 1 to interpret the code displayed by the system LEDs.

NO IMAGE

- Make sure the selected input is connected to a video or graphic signal and that this source is functioning correctly.
- Make sure the video or graphic signals supplied by the source are compatible with the TEATRO 80 - M80 system's technical specifications and, in particular, with those of the selected input.
- Check the condition of the cables used to connect the projector to its input sources.
- Check the state of the connection by interpreting the code displayed by the projector LEDs.
- Make sure the cooling air vents on the units are not blocked and that the room temperature is below 35°C.

IMAGE IS DISTURBED, UNSTABLE OR NOISY

- Check compatibility of the video or graphic signals with the technical specifications of the projector, and specifically, with the specifications of the selected input.
- Check all cables.
- If the problem occurs on a terrestrial broadcast source signal, check that the receiver has been correctly tuned in and that the aerial system is in good working order.
- If the problem occurs in a video signal from a video recorder, ensure that the videotape is in good condition and that VCR mode is active in the PICTURE menu.
- Adjust the Sharpness parameter in the PICTURE menu to optimise the projected image.

INCOMPLETE IMAGE AROUND THE EDGES (VERTICAL OR HORIZONTAL)

- Check compatibility of the video or graphic signals with the technical specifications of the system, and in particular, with the specifications of the selected input.
- Open the automatic image adjustment function by pressing the key A on the remote control or ◄ on the projector's keypad.
- Adjust the horizontal or vertical position of the image with the IMAGE/POSITION menu (if available for the input in question).
- Adjust the image width and height, selecting Aspect in the IMAGE /ASPECT menu.
- Adjust the overscan setting applied to the image on the IMAGE/OVERSCAN menu.

IMAGE TOO DARK/PALE OR UNNATURALLY COLOURED

- Check compatibility of the video or graphic signals with the technical specifications of the projector, and in particular, with the specifications of the selected input.
- Adjust the CONTRAST, BRIGHTNESS, COLOUR and TINT parameters in the PICTURE menu.
- If necessary, adjust COLOUR TEMPERATURE and GAMMA CORRECTION (IMAGE menu).

GRAPHIC IMAGE WITH POOR QUALITY VERTICAL DETAIL

- Check compatibility of the video or graphic signals with the technical specifications of the projector, and in particular, with the specifications of the selected input.
- Press key A on the remote control or ◄ on the projector keypad to execute automatic adjustments.
- Adjust the FREQUENCY and PHASE settings in the IMAGE menu to optimise the vertical details of the image (if available for the input in question).

VIDEO IMAGE WITH COLOURS NOT ALIGNED WITH VERTICAL DETAILS

- Check compatibility of the video or graphic signals with the technical specifications of the system, and in particular, with the specifications of the selected input.

- Adjust Y/C DELAY settings in the IMAGE menu to reduce colour misalignment.

REMOTE CONTROL DOES NOT WORK

- Check remote control battery power and that they are inserted correctly.
- Ensure the area between the infrared sensors (on the front panel of the projector) and the remote control is free from obstructions.
- Make sure the infrared sensors on the front and rear of the projector are not exposed to very bright light levels.

15 OPTIONAL ACCESSORIES

You can purchase the following optional accessories at your Dealer:

CEILING MOUNTING KIT
OPTIONAL LENSES

A range of lenses are available from our dealers to satisfy varying installation and projection distance needs. See the Additional Information chapter for further details on projection distance and enlargement ratios.
Always contact our service centre to have the lens replaced.
Use only original or **SIM2 Multimedia** approved accessories.

WARNING: for ceiling/wall installation, using a suspension bracket, carefully follow the instructions and safety regulations provided with the bracket in the packaging.

16 TECHNICAL SPECIFICATION

ELECTRONICS

Input signals:

- 1 COMPOSITE VIDEO (CVBS)
  gilded RCA type connectors
  1.0 V_{pp} / 75 Ω, negative synchronisation
- 1 S-VIDEO (Y/C)
  4 pin mini-DIN connectors
  Y: 1.0 V_{pp} / 75 Ω, negative synchronisation
  C: 0.286 V_{pp} / 75 Ω, [NTSC burst rated level]
  0.3 V_{pp} / 75 Ω [PAL, SECAM burst rated level]
- 2 COMPONENTS (Y/Pr/Pb/) - RGBS
  1 set of 4 RCA connectors
  1 set of 5 BNC connectors

- Component signal
  Y: 1.0 V_{pp} / 75 Ω, negative or 3 level synchronisation [HDTV]
  YPrPb:0.7 V_{pp} / 75 Ω

- RGB Signal
  R,B: 0.7 V_{pp} / 75 Ω
  G: 0.7 V_{pp} / 75 Ω, HV synchronisation
  1.0 V_{pp} / 75 Ω, negative or 3 level synchronisation [HDTV]
  Positive or negative TTL, 5 V_{pp} / 1 kΩ

- 2 RGBHV (RGB analogue)
  female DB15HD-type connectors
  R,B:0.7 V_{pp} / 75 Ω
  G:0.7 V_{pp} / 75 Ω, separate H, V or HV synchronisation
  1.0 V_{pp} / 75 Ω, negative or 3 level synchronisation [HDTV]
  Positive or negative TTL, 5 V_{pp} / 1 kΩ
- 1 DVI (RGB-YPrPb digital) connector DVI-D female
- 6 HDMI HDCP
- 1 HD-SDI (connector BNC)

Control:	Keypad on rear input panel, remote control, via RS232 from PC or home automation devices, USB 1.1, LAN RJ45
Horizontal frequency:	from 15 to 80 kHz (up to UXGA format @ 65 Hz)
Vertical frequency:	48 -100 Hz, 24Hz @ 1080p
Video standard:	automatic selection (PAL B,G,H,I,M,N,60, SECAM, NTSC 3.58 and 4.43)
Graphic standards:	VGA, SVGA, XGA, SXGA, UXGA
High definition standard:	ATSC HDTV (480p, 720p, 1080i, 1080p)
Colour temperature:	from 5500K to 9000K
Contrast:	>5000:1
Lamps:	2 of 300W (can be dimmed to 250W)
Outputs:	2 12V jack connectors (1 active when system powered, 1 active when 16:9 aspect ratio selected)

GENERAL PROJECTOR

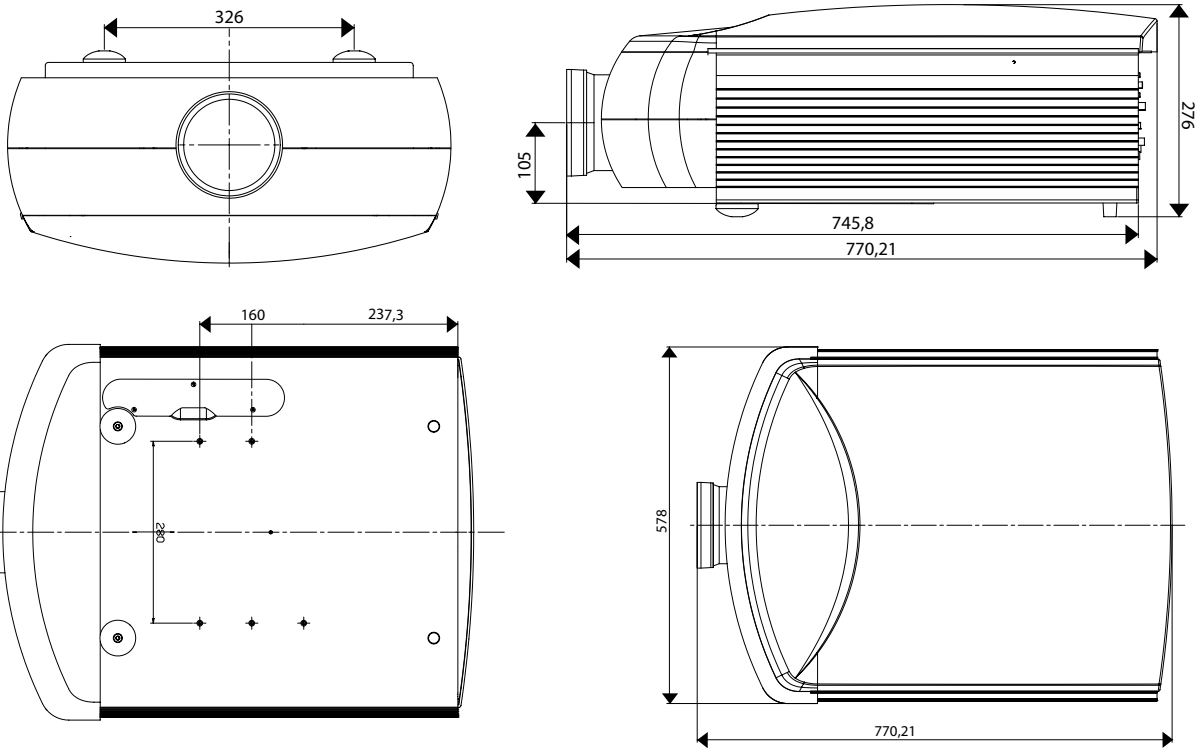
Power cable:	(EU, UK and US); 2m long
Power supply:	from 110 to 240 V AC, tolerance +/- 10% frequency from 48 to 62 Hz
Absorption from mains:	700 W max
Fuse:	T 10 A H, 5 x 20 mm
Dimensions:	570 x 277 x 720 mm (WxHxD)
Weight (approx):	~45 kg
Operating temperature:	10 to 35°C
Shipping temperature:	-15 to 55°C
Storage temperature:	-15 to 55°C
Humidity:	20% to 95% without condensation
Safety:	EN 60950
Portability:	considered “desktop equipment”
Electromagnetic compatibility:	EN 55022 Class B EN 55024 EN 61000-3-2 EN 61000-3-3
Transport:	IEC 68-2-31, IEC 68-2-32

TEATRO 80 - M80

APPENDIX

TEATRO 80 - M80 DIMENSIONS
PROJECTIONS DISTANCES
INSTALLATION INSTRUCTIONS

APP.1 TEATRO 80 MB (unit of measure: mm)



APP.2 PROJECTIONS DISTANCES (16:9)

Meters

Lens Type	FWA -1*	FWA -2*	Short		Med-Short		Med-Long		Long	
Throw Ratio**	0.67:1	1.11:1	1.39~1.87:1		1.87~2.56:1		2.56~4.16:1		4.16~6.96:1	
Throw Distance (m) (min - max)	1.1 - 3.2	3 -15	4 - 24		4 - 24		9.1 - 45		12 - 80	
			Throw Distance (meters)							
Image Width	Fixed	Fixed	Min	Max	Min	Max	Min	Max	Min	Max
meters										
1.5	1									
3	2	3.4	4.2	5.6	5.6	7.7			12.5	20.9
4.5	3	5	6.3	8.4	8.4	11.5	11.5	18.7	18.7	31.3
6		6.7	8.3	11.2	11.2	15.4	15.4	25.0	25.0	41.8
9		10	12.5	16.8	16.8	23.0	23.0	37.4	37.4	62.6
10.5		12	14.6	19.6	19.6	24.0	26.9	43.7	43.7	73.1
13.5		15	18.8	24.0			34.6	45.0	56.2	80.0

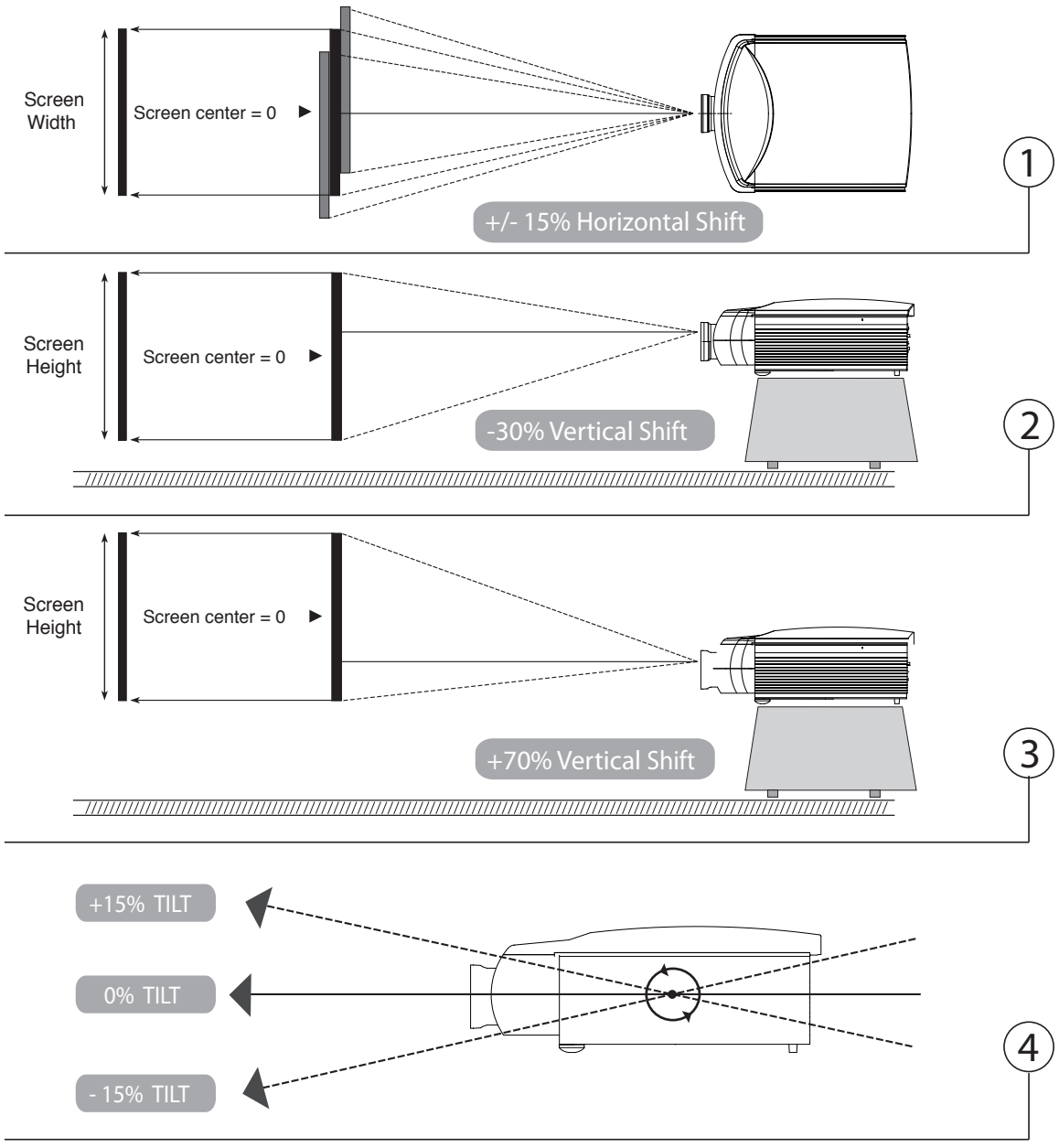
Feet

Lens Type	FWA -1*	FWA -2*	Short		Med-short		Med-long		Long	
Throw Ratio**	0.67:1	1.12:1	1.39~1.87:1		1.87~2.56:1		2.56~4.16:1		4.16~6.96:1	
Throw Distance (ft) (min - max)	3.2 - 9.9	9.9 -49	13.1-78.7		13.1-78.7		29.5 -147		39.3 - 262.3	
			Throw Distance (feet)							
Image Width	Fixed	Fixed	Min	Max	Min	Max	Min	Max	Min	Max
feet										
5	3.3									
10	6.7	11.2	13.9	18.7	18.7	25.6			41.6	69.6
15	10.0	16.8	20.9	28.1	28.1	38.4	38.4	62.4	62.4	104
20		22.4	27.8	37.4	37.4	51.2	51.2	83.2	83.2	139
30		33.6	41.7	56.1	56.1	76.8	76.8	125	125	209
35		39.2	48.7	65.5	65.5	89.6	89.6	146	146	244
45		50.4	62.6	84.2			115	187	187	262

*FWA – Fixed Wide Angle
** Throw Distance/Image Width

APP.3 INSTALLATION HINTS (HORIZZONTAL - VERTICAL SHIFT)

To install the TEATRO 80MB system correctly place the projector so that the projected image completely fills the screen. Ideally, to avoid image distortion, the projector should be positioned perfectly perpendicular to the projection screen, as shown in the figure below. The centre of the projection lens should be lined up with the centre of the projection screen.



CAUTION:
The examples shown in the figure give only general indication on the use of the vertical shift. Each projection lens may require differing vertical shift settings. For more detailed information, see the technical specifications or contact an authorised SIM2 Multimedia centre.

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